

Contemporary patterns of sustainable lifestyle and attitudes for behaviour change in the Hungarian society

Ágnes Zsóka

*Corvinus University of Budapest, Department of Environmental Economics and Technology, H-1093
Budapest, Fővám tér 8*

agnes.zsoka@uni-corvinus.hu

Abstract

Communication of sustainable consumption is in crisis because reaches solely committed individuals. This statement is supported by research results presented in the paper. Analysis is based on a survey of 1000 respondents, representing Hungarian society in age, education, income and settlement, carried out in 2010. The survey focused on lifestyle and consumption habits, as well as future attitudes to more sustainable living. Results allowed us to classify human activities into three factors, representing attitudes to behaviour change: (1) energy consumption, (2) travelling and buying consumer goods, (3) meeting physiological needs. Based on the factors, five clusters of respondents could be identified: (1) Open to save energy, (2) Reluctant to change physiological habits, (3) Open to fully change behaviour, (4) Open to change physiological habits, and (5) Careless and/or poor people. Contemporary and reported future lifestyles are significantly correlated. Hence, environmental communication can be further used to address committed people while resistant groups of the society should be approached by different policy measures, focusing on price sensitiveness and cost-efficiency.

Keywords: sustainable consumption, lifestyle, habits, behaviour change, environmental awareness

Introduction

Looking at the history of sustainable consumption in the last 20 years, it is obvious that the implementation of the concept is far from ideal. This is partly due to the ambiguous feature of the concept itself, allowing several opportunities for compromise, by focusing much more on efficiency than on behavioural change and the ecological impact of our behaviour. On the other hand, promotion of lifestyle change tends to address predominantly already committed people; hence it is not able to significantly increase the level of environmental awareness in the society.

Beyond global and European trends, the representative Hungarian survey, carried out by Corvinus University of Budapest, seems to support those statements, providing some lessons at the same time for consumer policy. The research included exact data for ecological footprint calculations (see Csutora ed. 2011), as well as questions regarding present and reported future lifestyle and consumer behaviour. The paper deals with the latter issues.

Lessons from the literature on environmental awareness

The most important dimensions of individual environmental awareness appear to be environmental knowledge, attitudes, values, willingness to act and actual behaviour (Nemcsicsné Zsóka 2006). As known from the literature, increase in knowledge does not necessarily results in behavioural change although knowledge about environmental problems raises concerns in people and has an important role in making people aware of environmental issues (Kollmuss and Agyeman 2002, Bamberg and Möser, 2007). Arbuthnott (2009) argues that even changes in attitudes and values are insufficient to alter behaviour, although these changes are necessary drivers for action (see also Marjainé et al. 2009). Csutora (2012) goes further in stating that actual pro-environmental behaviour does not guarantee a low environmental impact. In addition to attitudes, socio-cultural factors such as social norms (Ajzen 1985; Widegren 1998), group identity (Bonaiuto et al. 1996) and interpersonal relationships (Jaeger et al., 1993) are hypothesized to significantly influence individual behaviour as well. Furthermore, personal moral norms (Bamberg and Möser 2007), contextual support (Stern 2000; Arbuthnott 2009), habitual behavior (Kollmuss and Agyeman 2002; Arbuthnott 2009) and 'green identity' (Whitmarsh and O'Neill 2010) also prove to be significant determinants of a pro-environmental lifestyle. Some scholars point out the impact of situational factors such as economic constraints, social pressure, the opportunity of selecting between various courses of action, established traditions, the sacrifice required by the behaviour and the availability of infrastructure (Hines et al. 1986) as being crucial. Fliegenschnee and Schelakowsky (1998) even claim that 80% of environmental (un)awareness can be traced back to situational factors. According to the experiments of Webb and Sheeran (2006), a medium-to-large change in intention results only in a small-to-medium change in behaviour. Obviously, causalities in human behaviour are very complicated to model accurately (see the comprehensive literature review of Steg and Vlek 2009).

Survey characteristics

The survey of 1013 respondents, implemented in 2010 is representative for the Hungarian adult society in age, gender (55% woman, 45% man), education (16% higher education, 33% high school, 27% vocational school, 24% graduate school), income, and settlement (17% Budapest, 12%: county centers, 38%: smaller towns, 33%: villages). The surveying method was personal inquiry, where sampling started with selection of the settlements, followed by application of the random walking method to find respondents. Surveying one person over 18 years in each household was based on the Leslie Kish keys (Kish 1949, 1965). The most important questions of the survey covered food consumption and travelling habits, lifestyle, equipment features of the household, as well as contemporary and reported future attitudes to sustainable lifestyles (results summarised in Csutora ed. 2011).

Contemporary lifestyle patterns of the Hungarian adult society

The list of pro-environmental lifestyle patterns follows the structure of the Eurobarometer survey (European Commission 2008). Not surprisingly, similar activities are popular in Hungary as in the European Union, such as separating waste, using environmentally friendly modes of transport or

reducing energy and water consumption, due to social marketing, simplicity, availability, and cost saving reasons (see Figure 1). On the other hand, product-related activities are much less frequent. Altogether 10% of the respondents reported to have bought products with eco-label recently. This result can be explained by the relatively low level of eco-labelled products and the lacking information for the society.

From the 8 listed activities, respondents follow 2.15 on average, for directly environmental reasons. Other (mainly financial) reasons also play a significant role, as it comes from more detailed analysis; however, even the most widespread activities are indicated by not more than 38-40% of the respondents. One fifth of the sample does not even practice *any* of the listed behaviours for environmental reasons.

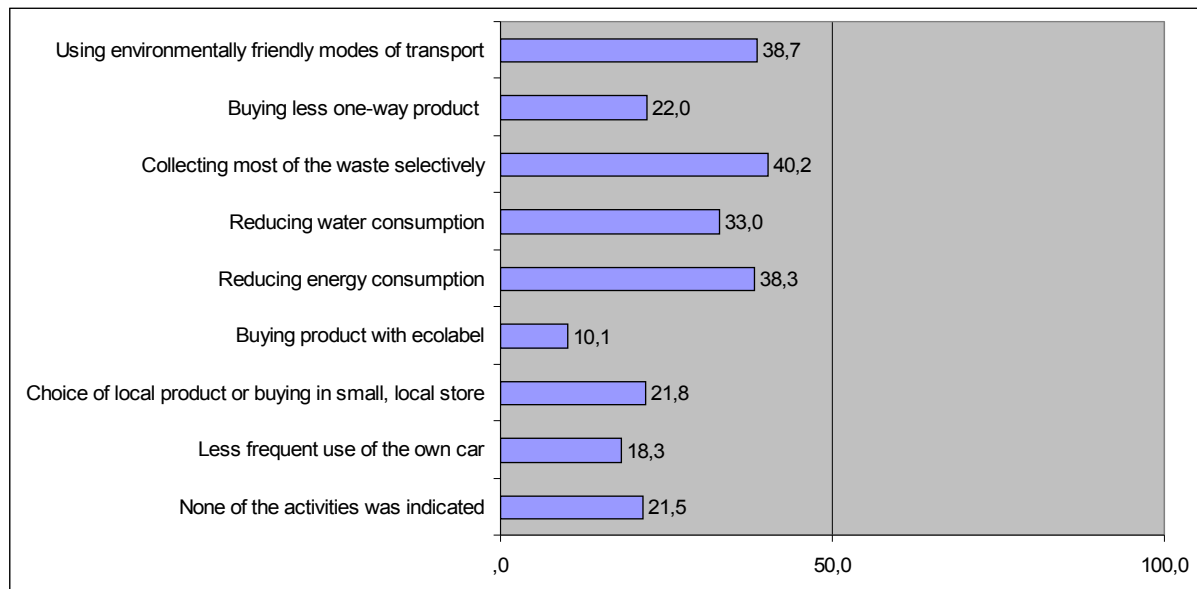


Figure 1: Pro-environmental activities at the moment (more answers were possible)

Obviously, the unutilised potential in changing consumer behaviour and lifestyle of the Hungarian society is quite high, but making use of this potential also depends on willingness to change.

Reported future willingness to change lifestyle

Such as in the case of contemporary pro-environmental activities, the patterns of future willingness to change cover the main areas of our lifestyle. Figure 2 provides a detailed view of the answers, while Figure 3 contains the average values comprehensively.

Contrary to present action, there are some striking features which highlight the role of non-environmental reasoning in behaviour shaping. Positive attitudes to the purchase of domestic or local products are definitely much more likely a result of the communication evoking national spirit than that of environmental argumentation, however, it has a positive impact from sustainability point of view as “side-effect”. Similarly, energy-efficiency measures – like buying energy-efficient devices, using better insulation for walls, and changing heating habits – are often taken for cost saving reasons, inducing positive environmental impacts at the same time.

Ágnes Zsóka: Contemporary patterns of sustainable lifestyle and attitudes for behaviour change

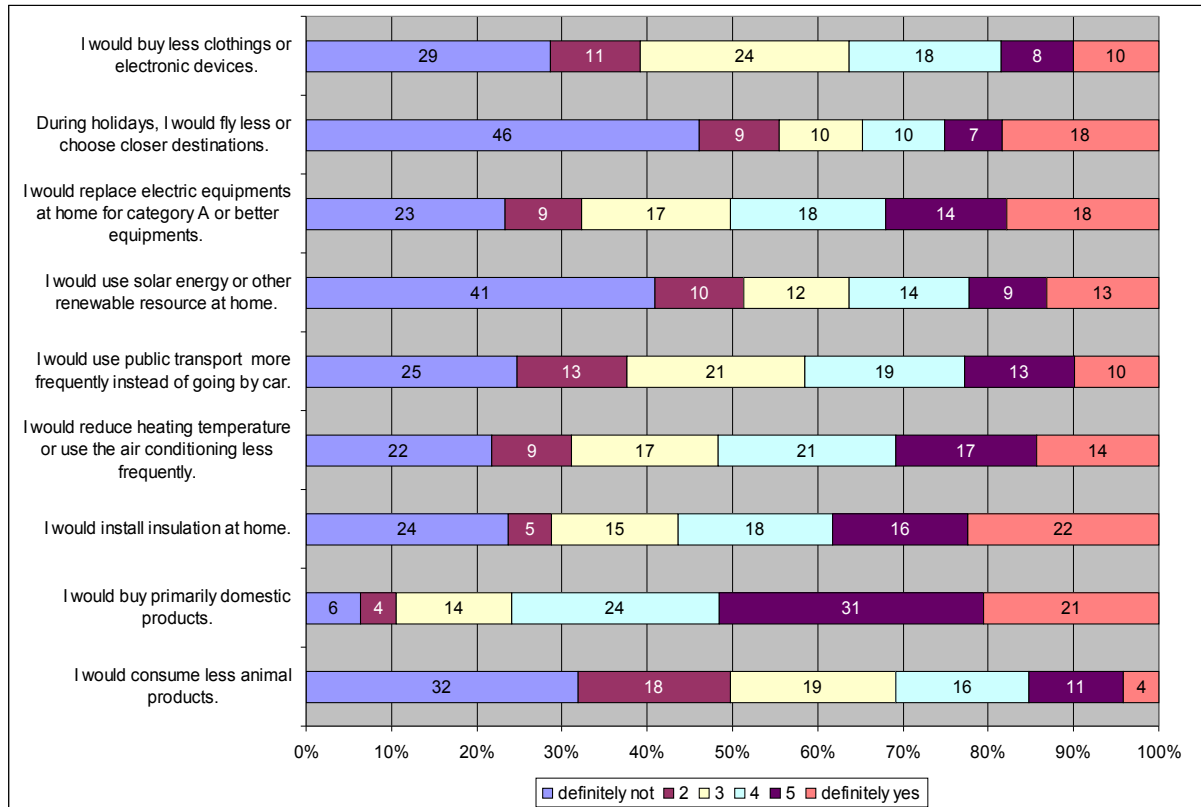


Figure 2: Willingness to act pro-environmentally in the future

On the other hand, the Hungarian society seems reluctant to change meat consumption habits, even if this would be a crucial factor in improving our ecological footprint. The same is true for switching to solar energy or other renewable resources at home, mainly for financial reasons, as renewable solutions are generally expensive today.

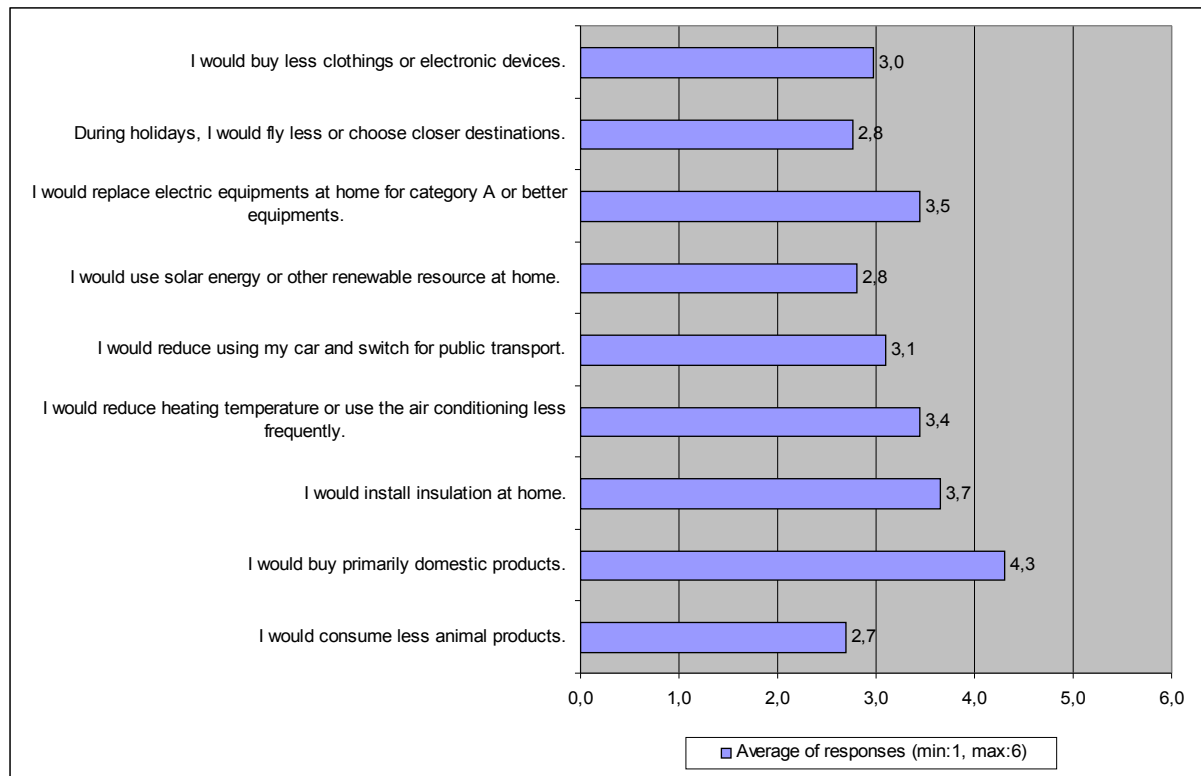


Figure 3: Willingness to act pro-environmentally in the future (average values)

In order to get a more concise view on typical areas of lifestyle change, a principal component analysis was conducted with the help of PASW program.

In five iterations, using Varimax rotation, 3 factors were derived with eigenvalue over 1, explaining 62% of total variance. KMO-value is 0,799; the result of Bartlett test of sphericity is 1672. Values of the rotated component matrix are illustrated in Table 1. Content of the factors clearly represents the most important areas of pro-environmental behaviour change. In Factor 1 energy-related variables have the highest relevance; in Factor 2 travelling habits and consumer behaviour features (related to clothes and electronic products) are dominating; while Factor 3 is mostly shaped by variables reflecting the satisfaction of physiological needs (meat consumption, buying local products, reducing heating temperature).

Table 1: Rotated component matrix of the factor analysis for future willingness to act

	energy consumption	travelling and buying consumer goods	physiological needs
Willingness of using solar energy or other renewable resource at home.	0,808	0,133	0,121
Willingness of replacing electric equipments at home for category A or better equipments	0,806	0,192	0,114
Willingness of installing insulation at home	0,784	0,093	0,174
Willingness of flying less or choosing closer destinations during holidays	0,198	0,805	-0,001
Willingness of buying less clothing or electronic devices	0,034	0,76	0,28
Willingness of using car less frequently and switching for public transport	0,188	0,722	0,15
Willingness of consuming less animal products	-0,02	0,292	0,708
Willingness of buying primarily domestic products	0,172	-0,028	0,696
Willingness of reducing heating temperature or using the air conditioning less frequently	0,265	0,186	0,645

Similarly to this research, a previous survey supports the phenomenon that environmentally aware behaviour of individuals is an output of some special behaviour types and those forms of activities do not reflect a fully consistent behaviour in most cases (Marjainé et al. 2011). Compensation behaviour is widespread in order to balance insistence on some habits.

Interrelationship between present and future sustainable lifestyle

The relationship between contemporary and reported future behaviour is significant. The analysis was both based on crosstable analysis (see Figure 4) and an ANOVA test ($p=0,000$; $F=18,267$), comparing the number of activities practised very recently with the level of willingness to change individual behaviour in the future. The two extremes significantly differ from the average: those who pursue zero or only one activity today are predominantly reluctant to future behaviour change, while presently active respondents (with 8 activities) can be characterised by high or very high future willingness. No tendency is detectable by people taking 2-7 activities as regard to future willingness; all of them show moderate willingness to change their lifestyle for sustainability.

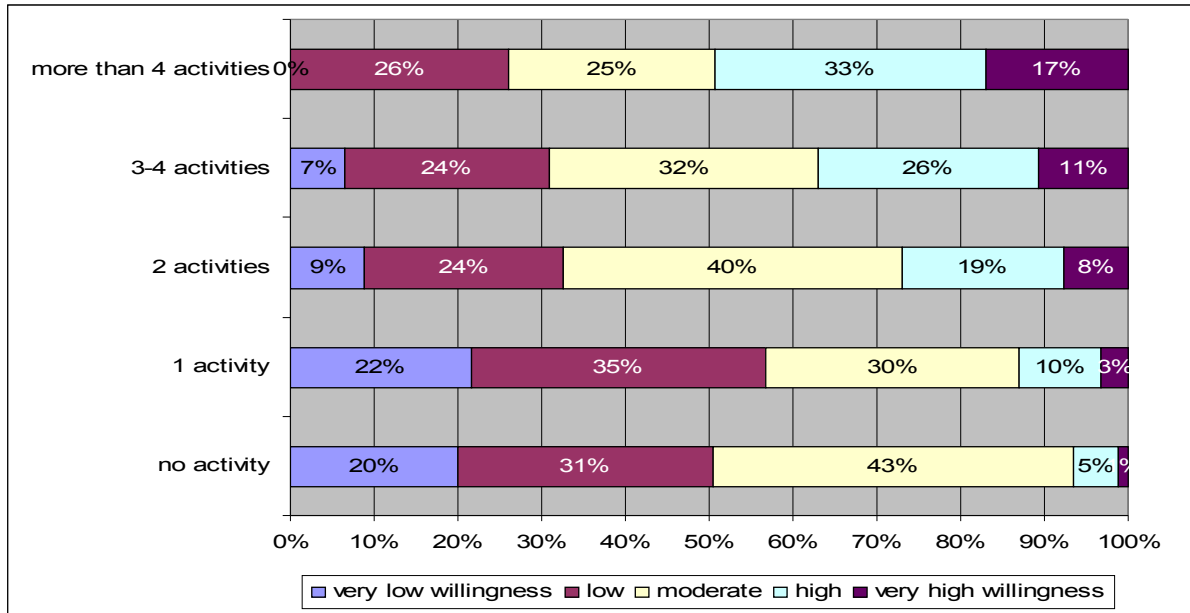


Figure 4: Number of contemporary activities and future willingness to change behaviour

Analysing the relationship between present and reported future behaviour case by case, the picture is similar. Regarding every pattern of energy-related activities, the rate of respondents with high and very high willingness is significantly higher among presently committed people – although those rates could be generally higher (see Figure 5). The same connection can be observed in the case of travelling-related behaviour and product-related consumer habits.

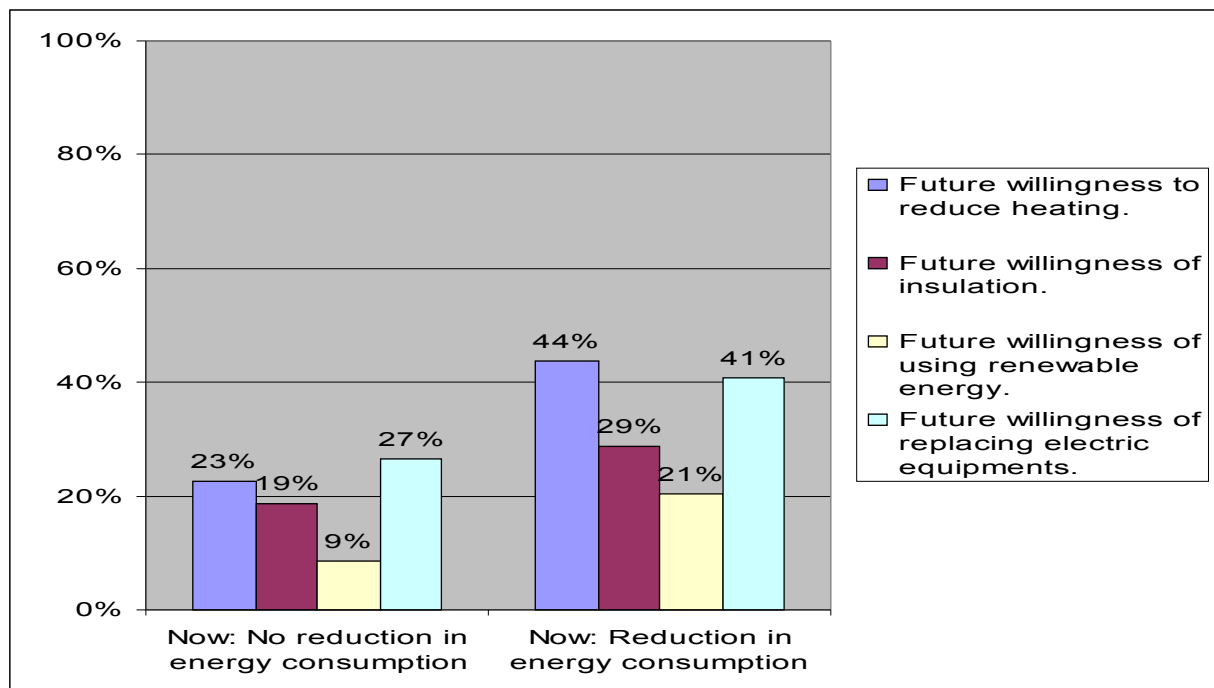


Figure 5: Contemporary and reported future behaviour related to energy consumption (rate of respondents with high and very high willingness)

Not surprisingly, the income of the household is in significant positive relationship with the intensity of present pro-environmental activity. Before drawing wrong conclusions from this result, it does not necessarily mean that more affluent citizens are more sustainable in their consumption and lifestyle, although they definitely seem to be more aware and committed. They “can afford” to act more consciously, while poor families struggle for survival, pushing environmental motivations into the

background, and some activities are even not relevant for them at all (they do not have a car, never fly, and have an originally much lower energy consumption). The analysis should therefore be supplemented by ecological footprint calculations, shading the results with the ecological impacts of consumption and lifestyle (see Csutora ed. 2011 for further details). Regarding future willingness, results are more “realistic”: people belonging to the lower income deciles also reported to be ready for behaviour change in the future, although primarily for financial and not environmental reasons.

Clustering the respondents due to their willingness to change behaviour patterns

Sample characteristics and the variance of willingness-related variables made the method of cluster analysis possible. More methodological procedures were conducted; finally, factors proved to best serve as basis for the analysis and Ward method was used. The program involved 815 respondents into the clusters.

Cluster 1: Open to save energy (67 respondents)

Members of the cluster predominantly prefer energy saving activities in the future. They are indifferent (average) regarding physiological habits but refuse to change their consumer behaviour (buying consumer goods). 62% of them are car-owners. They are overrepresented in the middle class income layer and high school education. They are satisfied with their life over the average.

Cluster 2: Reluctant to take physiological change (294 respondents)

These respondents are more reluctant to surrender their meat eating and heating habits. In the other two areas of behaviour change, their future attitudes match the average. This group is overrepresented among respondents with vocational school education; their income corresponds to the average, 62% has his/her own car. Life satisfaction is over the average in the cluster, perceived happiness fits the average.

Cluster 3: Willing to change all behavioural patterns over the average (197 respondents)

Members of the cluster are generally open to change their lifestyle. They are overrepresented in the categories of higher education and higher income. 68% has a car, it is the highest rate among clusters. They are more satisfied and happier than the average level.

Cluster 4: Willing to take physiological changes (69 respondents)

These respondents are highly willing to change their habits connected to meat consumption, heating temperature and buying local products. In the other two categories of behaviour change they are lagging well behind with their low willingness to change (especially related to energy saving). Primary school education is quite frequent in this group. Women are overrepresented, 66% does *not* have a car. People with lower income levels are overrepresented in the group. Their life satisfaction and happiness level is lower than the average.

Cluster 5: Uninterested and/or poor people (188 respondents)

‘Uninterested’ means that members of the cluster lag behind in willingness for every field of activity. Some of them are really uninterested although wealthy enough to act, others are poor, meaning that these questions are not really relevant for them (no car, no flying, generally low consumption level). Independently from income category (!), a lot of them are dissatisfied, but there are happy on average.

Discussion and limitations

The representative feature of the survey allows us to draw general conclusions for the pro-environmental lifestyle and attitudes to future behaviour change in the Hungarian adult society. However, there are some limitations restricting the explaining power of results. One limitation comes from surveying methodology as questionnaire-based surveys always give space to self-reporting bias. In this case, both questions related to present activities and future willingness to change involve the chance of self-reporting bias and the only (but important) group of control variables covers ecological footprint input data. The author suggests to combine the results of the two survey parts; however, such comparison goes beyond the extent of this paper. Hence, a total picture cannot be drawn on the sustainable consumption and lifestyle of the society but

some important features and relationships were observed and some phenomena became obvious.

Conclusions

Based on the above results, present and reported future lifestyle of the Hungarian society can be characterised as follows. The level of pro-environmental activities for environmental reasons is quite low. None of the indicated behaviour patterns are widespread enough, although the popularity of the activities is in line with European and global trends. Variables reflecting future willingness to act were classified into three factors representing the most important areas of behaviour change (energy saving, travelling and consumer behaviour as well as satisfaction of physiological needs).

As a result of the comparison between contemporary and intended future behaviour, the tendency is clear: those who are generally more active in sustainable activities are significantly more willing to further change their behaviour towards sustainable lifestyles. This means that the communication promoting environmental awareness and sustainable consumption primarily reinforces the commitment of devoted people but is ineffective to address individuals with low commitment. Environmental awareness seems to correlate with income level but higher awareness of more affluent people does not necessarily reflect in low ecological impact and vice versa: low level of awareness among poor people can be well associated with low level of consumption, resulting in sustainable consumption.

The factors of future attitudes helped classify respondents into five clusters. The clusters symbolise the society indicating the variety of our willingness to change lifestyle patterns. Compensation behaviour is obvious: there are more clusters where respondents are willing to change their behaviour in some features but reluctant to consistently change every element of the lifestyle (Clusters 1, 2 and 4). The members of Cluster 3 are more or less consistent in their reported future willingness to take pro-environmental actions; while – on the other extreme – members of Cluster 5 are absolutely uninterested to make any changes or are too poor to deal with environmental issues.

Willingness to change lifestyle patterns is in positive correlation with happiness but in ambivalent relationship with life satisfaction. Unhappy and dissatisfied respondents (e.g. Cluster 4) are most probably motivated by financial reasons for change while happy people are more open for altering their polluting habits.

Results make the dichotomy of attitude shaping efforts obvious: sustainability communication is effective for evoking further lifestyle change in the committed layers while all other citizen groups should be addressed by different consumer policy tools, utilising mainly the price sensitiveness and cost efficient attitudes of the Hungarian society.

Acknowledgement

The publication of this research has been supported by the EU funded project: TÁMOP-4.2.1.B-09/1/KMR-2010-0005.

References

- Ajzen, I. (1985): From intentions to actions: A theory of planned behavior. In: Kuhl, J. – Beckman, J. (eds): *Action control: From cognition to behavior*. Heidelberg: Springer
- Arbuthnott, K. D. (2009): Education for sustainable development beyond attitude change. *International Journal of Sustainability in Higher Education* 10: 152-163
- Bamberg, S., Möser, G. (2007): Twenty years after Hines, Hungerford, and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental behavior. *Journal of Environmental Psychology* 27:14-25
- Bonaiuto, M. – Breakwell, G.M. – Cano, I. (1996): Identity processes and environmental threat: The effects of nationalism and local identity upon perception of beach pollution. *Journal of Community and Applied Social Psychology* 6: 157-175

- Csutora M. ed. (2011): *Economics of ecological footprint* (in Hungarian), summary of studies for the project “Sustainable Consumption, Production and Communication”, supported by the Norwegian Fund, Budapest, ISBN: 978-963-503-466-9
- Csutora, M. (2012): One more awareness gap? The behaviour-impact-gap problem. *Journal of consumer policy*, 35,1, DOI: 10.1007/s10603-012-9187-8, 145-163
- European Commission (2008): *Attitudes of European citizens towards the environment*, Report, Special Eurobarometer, ec.europa.eu/public_opinion/archives/ebs/ebs_295_en.pdf
- European Commission (2009): *Europeans’ attitudes towards the issue of sustainable consumption and production*, Analytical Report, Flash Eurobarometer, ec.europa.eu/public_opinion/flash/fl_256_en.pdf
- Fliegenschnee, M. – Schelakovsky, M. (1998): *Umweltpsychologie und Umweltbildung: Einführung aus humanökologischer Sicht*. Wien: Facultas Universitäts Verlag
- Hines, J.M. – Hungerford, H.M. – Tomera, A.N. (1986): Analysis and synthesis of research on responsible pro-environmental behavior: a meta-analysis. *The Journal of Environmental Education* 18: 1-8
- Jaeger, C. – Dürrenberger, G. – Kastenholz, H. – Truffer, B. (1993): Determinants of environmental action with regard to climate change. *Climate Change* 23: 193-211
- Kish, L. (1949): “A Procedure for Objective Respondent Selection within the Household”, *Journal of the American Statistical Association*, 44, pp. 380-387.
- Kish, L. (1965): *Survey sampling*. John Wiley and Sons, Inc., New York
- Kollmuss, A. – Agyeman, J. (2002): Mind the Gap: why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research* 8: 239-260.
- Marjainé Szerényi Zs., Zsóka Á., Széchy A. (2011): Consumer Behaviour and Lifestyle Patterns of Hungarian Students with Regard to Environmental Awareness, *Society and Economy*, Vol. 33, Nr. 1, 89-110
- Nemcsicsné Zsóka Á. (2006): Consistency and „awareness gaps” in the environmental behaviour of Hungarian companies, *Journal of Cleaner Production*, Vol.16, Issue 3, Feb. 2008, p. 322-329, online letölthető: <http://dx.doi.org/10.1016/j.jclepro.2006.07.044>
- Steg, L., Vlek, C. (2009): Encouraging pro-environmental behavior: An integrative review and research agenda, *Journal of Environmental Psychology* 29: 309-317
- Stern, P.C. (2000): Toward a coherent theory of environmentally significant behavior. *Journal of Social Issues* 56: 407-424
- Webb, T., Sheeran, P. (2006): Does changing behavioral intentions engender behavior change? *Psychological Bulletin* 132 (2): 249-268
- Whitmarsh, L., O’Neill, S. (2010): Green identity, green living? The role of pro-environmental self-identity in determining consistency across diverse pro-environmental behaviors. *Journal of Environmental Psychology* 30: 305–314
- Widgren O. (1998): The New Environmental Paradigm and personal norms. *Environment and Behavior* 30: 75-10.